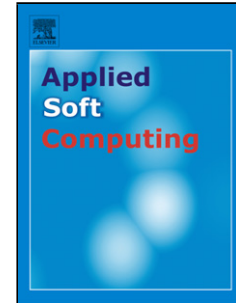


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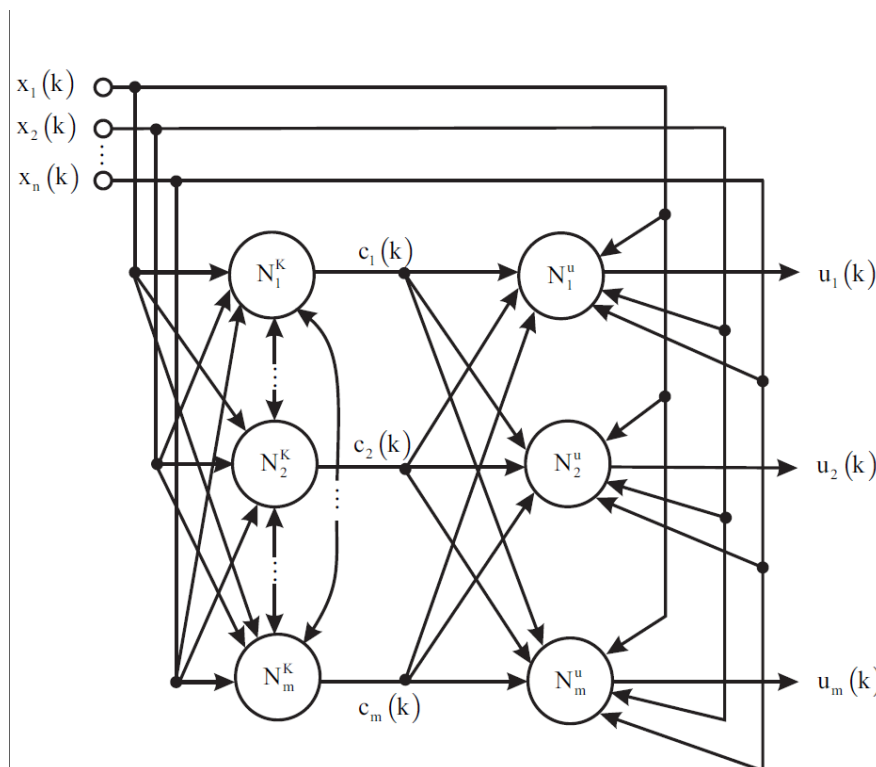
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A Neuro-Fuzzy Kohonen Network for Data Stream Possibilistic Clustering and Its Online Self-Learning Procedure

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Graphical abstract



Highlights

- A task of Data Stream Fuzzy Clustering is considered in the article.
- Modified 2-layer neuro-fuzzy Kohonen network used for possibilistic fuzzy clustering.
- Parameters tuned by a recurrent version of the possibilistic fuzzy clustering method.
- Centers' coordinates and membership levels tuned during the self-learning method.

Abstract

A task of Data Stream Fuzzy Clustering is considered when data is processed sequentially under a priori uncertainty conditions about both a number of clusters and a degree of clusters' overlapping. A modified two-layer neuro-fuzzy Kohonen network is used for solving the possibilistic fuzzy clustering tasks. This system tunes centers' coordinates and membership levels of every pattern to clusters during the self-learning procedure and automatically increases a number of neurons during data processing. A distinguishing feature of the proposed approach is its computational simplicity due to the

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